SIEMENS

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SIMATIC PC

SIMATIC KeyTools for Panel PC 670 Panel PC 870

Operating Instructions

Edition 08/03

Safety Guidelines

This manual contains notes which you should observe to ensure your own personal safety, as well as to protect the product and connected equipment. These notices are marked as follows according to the level of danger:

Danger

indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

Warning

indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

Caution

used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Caution

used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Notice

indicates that unwanted events or status can occur if the relevant information is not observed.

Note

draws your attention to particularly important information about the product, proper handling of the product, or to a particular part of the documentation.

Qualified Personnel

Equipment may be commissioned and operated only by **qualified personnel**. Qualified personnel within the meaning of the safety notices in this manual are persons who are authorized to commission, ground and identify equipment, systems and circuits in accordance with safety engineering standards.

Correct Usage

Please note the following:

Warning

The device may only be used for the application cases specified in the catalog and the technical description and may only be used in combination with thirdparty equipment and components recommended or approved by Siemens.

Startup must not take place until it is established that the machine which is to accommodate this component is conforms with the guideline 98/37 EC.

Appropriate transport, storage, installation, and assembly as well as careful operation and maintenance are required to ensure that the product operates flawlessly and safely.

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Geschäftsgebiet SIMATIC HMI
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We have checked the content of this publication for compliance with the described hardware and software. However, discrepancies cannot be excluded, with the result that we cannot guarantee total compliance. The information in this publication is, however, checked regularly, and any necessary corrections are included in the following editions. We welcome any suggestions for improvement.

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Preface

Purpose

These operating instructions are part of the documentation for the SIMATIC Panel PC 670 or the SIMATIC Panel PC 870, respectively (referred to in the following as the Panel PC 670/870).

These operating instructions provide the owner/operator of the system with the necessary information on the functionality and use of the SIMATIC KeyTools.

Caution

The contents of the Panel PC 670/870 operating instructions are superordinated to those of the Panel PC 670/870 equipment manual.

Siemens AG assumes no liability resulting from failure to observe the instructions.

Panel PC 670/870 Documentation

- Operating instructions (this document)

  The operating instructions are available in the languages German, English, French, Italian, and Spanish. Releases 10/2003 and higher of the operating instructions are contained on the "Documentation & Drivers" CD in PDF format in the languages mentioned above.

The following documentation is included with the Panel PC 670/870 on the CD "Documentation & Drivers" in PDF format and is available in the languages German, English, French, Italian, and Spanish.

- SIMATIC Panel PC 670/870, operating unit equipment manual
- SIMATIC Panel PC 670, computer unit equipment manual
  SIMATIC Panel PC 870, computer unit equipment manual
- SIMATIC Panel PC 870, start-up guide

Notation

Different font formats simplify orientation within the text:

`Motor on`	The text on the screen of the operating unit is displayed in typewriter font.
`Output`	Inputs and outputs on the screen of the operating unit are displayed in italic typewriter font.
File → Edit	Menu items, dialog names, tab controls and buttons of the operating system and the application are displayed in italic font. The complete path is always described with menu items.

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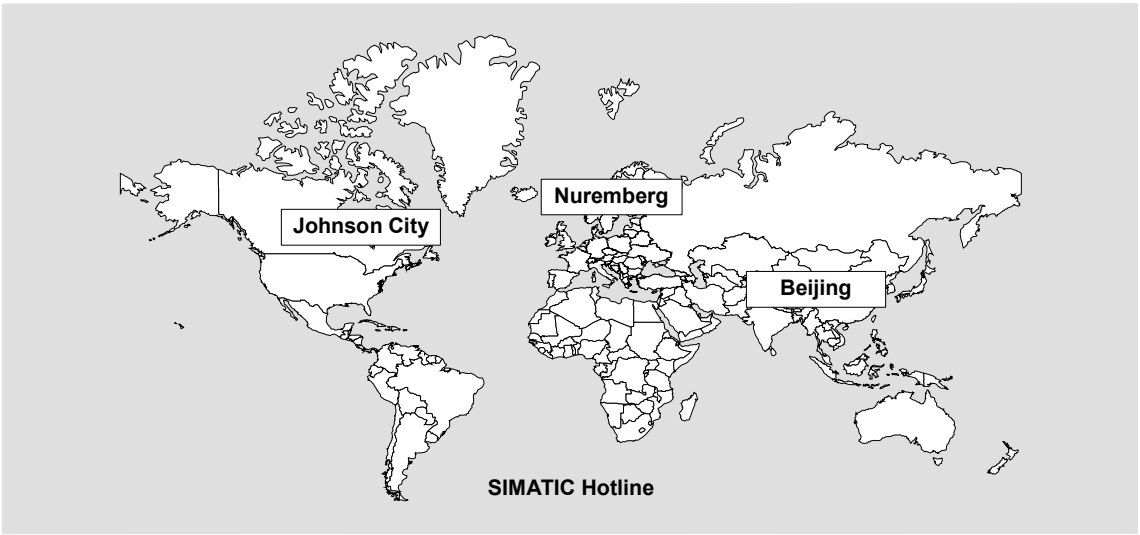

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  - In the Internet under
    http://www.siemens.com/automation/service&support

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Siemens offers a number of training courses to familiarize you with the SIMATIC S7 automation system. Please contact your regional training center or our central training center in D 90327 Nuremberg, Germany for details.

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Other Sources of Assistance

In case of technical queries, please contact the Siemens representatives in the subsidiaries and branches responsible for your area.

The addresses can be found:

- In the Siemens Catalog ST 80
- In the Internet under
  http://www3.ad.siemens.de/partner
- In the Interactive Catalog CA01
  http://www.ad.siemens.de/ik/html_76/ca01.htm

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1 Description of Functions in SIMATIC KeyTools

"SIMATIC KeyTools" is a selection of applications for use with Panel PC 670/870 to facilitate adaptation of keycodes sent from the front keyboard. KeyTools consists of the following tools:

- Keycode table
  Loading and editing of keycode tables (previously KeyPad)
- Security features
  for enabling and deactivating the safety-relevant parameters
- WinCC hotkey function
  For enabling and deactivating the WinCC hotkey function (previously KeyHook)

Note

Operating System

The SIMATIC KeyTools are compatible with the operating systems MS Windows 98, MS Windows NT, MS Windows 2000, and MS Windows XP.

Front Keyboard

In the following text, the term "front keyboard" will refer only to the keyboard at the front of the Panel PC 670/870 operating panel – not to external keyboards.

Start "KeyTools" by selecting *Start → Settings → Control panel,* and then opening the application *SIMATIC KeyTools*.

The following window will then open:

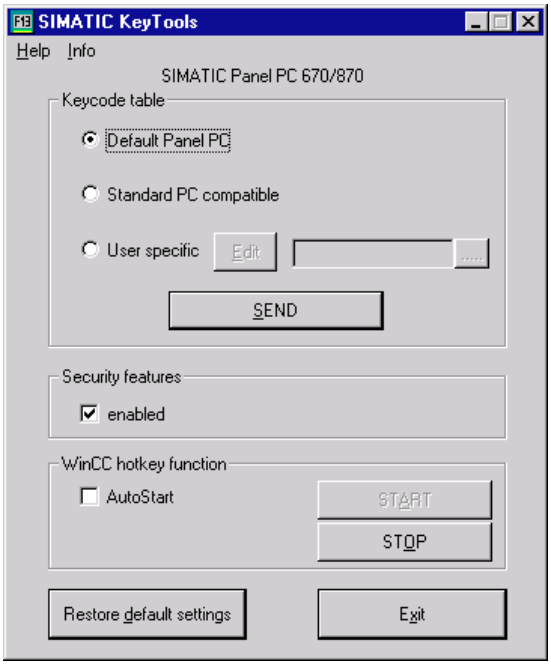

Figure 1–1 *KeyTools* window

You can find a description of "KeyTools" in the menu *Help* in German and English and additional information under menu *Info* under *About.*

You can restore the factory settings by clicking on the button *Restore default settings*. Leave "KeyTools" by clicking on the *Exit* button.

1.1 Keycode Table

In the group *Keycode table*, you can find three radio buttons for various keycode tables that can be sent to the front keyboard.

- *Default Panel PC*
- *Standard PC compatible*
- *User specific*

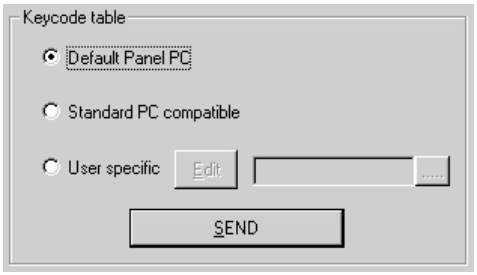

Figure 1–2 *Keycode table* group

The following more closely describes these three keycode tables.

Default Panel PC

By loading a permanently defined keycode table, you can reset the key assignment of the front keyboard on the Panel PC 670/870 panel to the original factory settings.

Keys	Keycode
F1–F12	F1 to F12
F13–F20	Shift + F1 to Shift + F8
S1–S4	Shift + F9 to Shift + F12
S5–S16	Ctrl + F1 to Ctrl + F8
Alphanumeric, cursor, and control keys	(USA) English international

Table 1–1 Keycodes

The default settings of the F13–F20 function keys and the softkeys S1–S16 correspond with the specifications necessary for using the keys with the SIMATIC HMI software, for example.

Do the following to send the *Default Panel PC* keycode table to the front keyboard:

1. In the window *SIMATIC KeyTools*, select the *Default Panel PC* radio button.
2. Click on the *SEND* button.
3. In the *Display SIZE* dialog box, select the display size appropriate for the current operating unit.
4. Acknowledge your choices with the *OK* button.

   The keycode table will now be sent. The keycodes that were sent will take effect immediately.

The *Default Panel PC* keycode table cannot be changed.

Standard PC Compatible

The key assignments of the front keyboard on the Panel PC 670/870 can be reset to the factory settings by loading a permanently defined keycode table, whereby the F13–F20 function keys and the S1–S16 soft keys are unassigned.

Note

After restarting, the *Security Features* will be deactivated - see chapter 1.2.

Keys	Keycode
F1–F12	F1 to F12
F13–F20	–
S1–S4	–
S5–S16	–
Alphanumeric, cursor, and control keys	(USA) English international

Table 1–2 Keycodes

Do the following to send the *Standard PC compatible* keycode table to the front keyboard:

1. In the window *SIMATIC KeyTools*, select the *Standard PC compatible* radio button.
2. Click on the *SEND* button.
3. In the *Display SIZE* dialog box, select the display size appropriate for the current operating unit.
4. Acknowledge your choices with the *OK* button.

   The keycode table will now be sent. The keycodes that were sent will take effect immediately.

The *Standard PC compatible* code table cannot be changed.

User specific

Under *User specific*, you have the option to edit the keycode tables and send them to the front keyboard.

Editing Keycode Tables

1. In the window *SIMATIC KeyTools*, select the *User specific* radio button.
2. Click on the *Edit* button.
3. In the *Display SIZE* dialog box, select the display size appropriate for the current operating unit.
4. Acknowledge your choices with the *OK* button.

   After you select the display size, the layout of the front keyboard of the Panel PC 670/870 will appear:

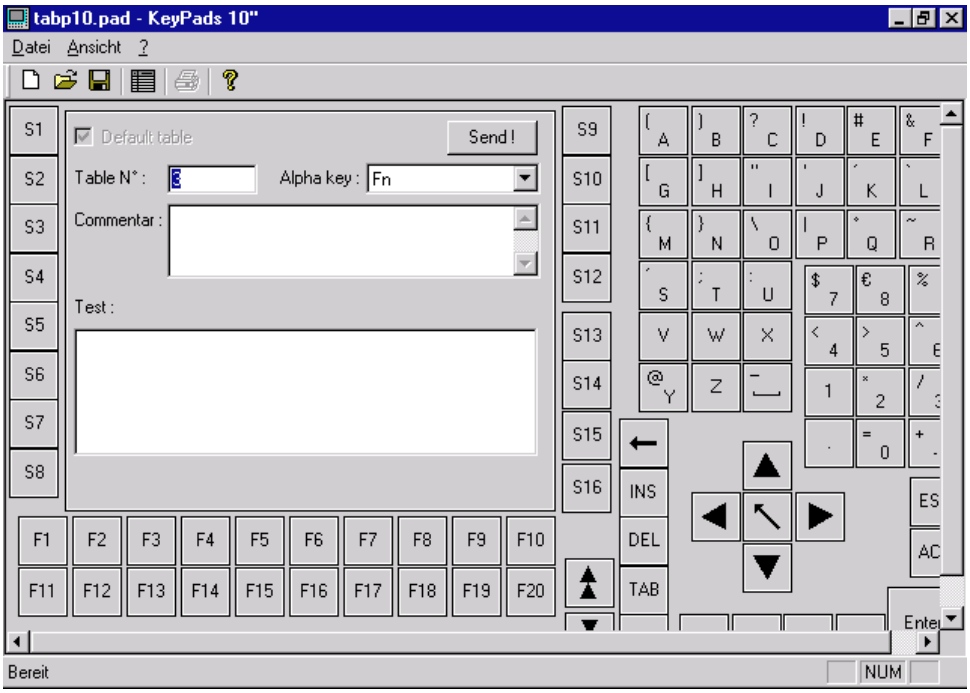

Figure 1–3 *KeyPads 10"* window

The *KeyPads xx"* window opens as standard. However, the keycode table has still not been loaded. If the keycode of individual keys will be changed, this keycode table must be loaded with the next work step.

5. Load the table

   You can use a copy of the *Default Panel PC* or *Standard PC compatible* keycode tables as a starting point. You will find these in the directory *drive:\Siemens\KeyTools\KeyPad_user*.

   - keycode tables for *Default Panel PC:*
     - *keypad_user\tabp10.pad* (for 10" display)
     - *keypad_user\tabp12.pad* (for 12" display)
     - *keypad_user\tab15.pad* (for 15" display)

   - keycode tables for *Standard PC compatible:*
     - *keypad_user\tabp10_st.pad* (for 10" display)
     - *keypad_user\tabp12_st.pad* (for 12" display)
     - *keypad_user\tab15_st.pad* (for 15" display)

6. In the *KeyPads xx"* window under *File → Open,* select one of these files - see Figure 1–3.

   Look on the menu bar to see which keycode table has been loaded. After the respective keycode table has been loaded, you can change the assignment of the individual keys.

7. Edit the keycode table

   You can call up the characters you wish to enter by clicking on them or hitting Enter. The *Key definition* window then opens.

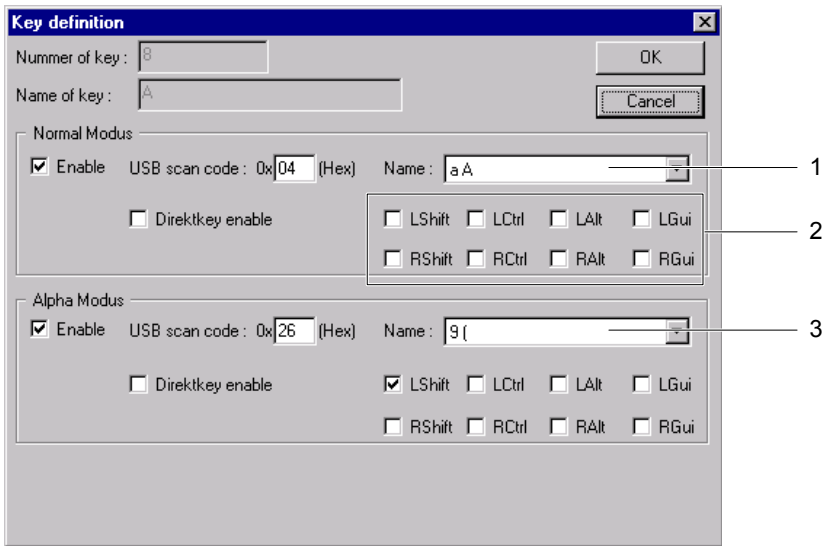

Figure 1–4 *Key definition* window

In the *Normal Modus* group, you can define which keycode **1** will be sent.

In the *Alpha Modus* group, you can define which keycode **3** will be sent as special characters. The special characters are generated with the combination "F_N + key".

To activate a key, the *Enable* check box must be selected in the group *Normal Modus* or *Alpha Modus*, respectively. By selecting the appropriate check boxes, **2** *LShift, RShift, LCtrl, RCtrl, LAlt, RAlt, Lgui* and *Rgui*, you can specify an additional keycode to be sent in addition to that selected under *Name* **1**.

Examples:

- *Normal Modus*

Name	Check box	Display/Function
a A	LShift	A
a A	–	A

- *Alpha Modus*

Name	Check box	Display/Function
0)	LShift	)
0)	–	0

The table in the appendix contains a list of all names that can be selected in the *Name* group. The column "Display/Function" specifies the display or the function that will be triggered by the respective key combination.

8. Send the keycode table

   Once the keycode table has been edited, you can save it and use the *Send!* button (see Figure 1–3) to send it to the front keyboard. The changes will take effect immediately and can be displayed in the test field.

Notice

The *Send!* button is active only if the application was started on a Panel PC 670/870 with a front keyboard.

The keyboard layout is (USA) English international. Note that the layout of an external keyboard must correspond with the international character set – only then will the characters printed on the keys correspond with those shown on the screen.

Sending Previously Edited keycode Tables

The advantage of this procedure is that it is not necessary to open the "keycode table". In this manner, a keycode table can be sent directly.

1. Press the button ".....", to open the browser (see Figure 1–2).
2. Select an edited table.

   The table must be of the type "*.pad".
3. Press the *SEND* button (see Figure 1–1).
4. In the next dialog box, select the appropriate display size.
5. Acknowledge your choices with the *OK* button.

   The keycode table will now be sent. The keycodes that were sent will take effect immediately.

1.2 Security Features

In the factory-delivered condition, the security features of the Panel PC 670/870 are activated.

Figure 1–5 *Security Features* group (see also Figure 1–1) – the "Security features" are activated in this image

When using functional keys within an "Operate and observe" software program, individual keys are usually assigned via the configuration directly to a reaction in the automation process. Therefore, to provide for safe operation of the automation process it must be ensured that only the configured button will trigger the desired reaction. If other function keys can send the same keycode, then you have what is called "ghost keys". The existence of these must be prevented.

The enabled security features prevent the triggering of "ghost keys" through the front keyboard. This safety setting is active in the factory-delivered condition of the Panel PC 670/870.

Warning

After the "security features" are deactivated:

The application software may malfunction with serious consequences when you use the additional function keys and softkeys F13 to S16 or your own keycode tables because the keycodes stored behind the function keys can also be triggered by selecting keys other than the configured keys.

In general:

Malfunctions may also arise when using external entry devices or combinations of external entry devices with the front keyboard on the Panel PC 670/870. In these cases, the security features will not be in effect.

Functionality of the Security Features

If one of the *Default Panel PC* keycode tables is loaded, the front keyboard's controller will send the following character strings when you press a F or S key:

Key	Keycode string
F1–F12	F (1–12)
F13–S4	Shift, F(1–12)
S5–S16	Ctrl, F(1–12)

Table 1–3 Keys pressed and keycode strings that will be sent

The keys F1–F12 on the front keyboard send the same keycodes as an external USB or PS/2 keyboard. An expansion of the keycode strings was defined for the other twenty-four F and S keys because the operating system provides access to only a limited number of keycodes. These F and S keys are defined with the keycode string Shift or Ctrl + F(1–12).

In the customer application with the simultaneous pressing of the keys Shift and Ctrl plus the F or S keys, the combination of keycode strings may trigger the ghost keys.
Table 1–4 lists a few examples of this.

Key 1	Key 2	Desired key	Activated key	
Shift (Shift)	F1 (F1)	Shift and F1	F13	(Shift, F1)
Ctrl (Ctrl)	F1 (F1)	Ctrl and F1	S5	(Ctrl, F1)
F14 (Shift, F2)	F1 (F1)	F14 and F1	F14 F13	(Shift, F2) (Shift, F1)

Table 1–4 Possible incorrect interpretations when pressing keys simultaneously (security features are deactivated)

Key 1 and key 2 are pressed simultaneously. The desired key and the key actually-activated are displayed (security features are deactivated). The sent keycode string is shown in brackets.

For this reason, the security features in the factory-delivered condition block simultaneous pressing of two F or S keys as well as the combination of the Shift or Ctrl key with an F or S key.

Warning

It is recommended for safety reasons to always use the security features and to not deactivate them.

If the user does deactivate the security features, it is important to make sure that no malfunctions can be triggered in the application program.

To do this, the following checks must be performed:

- Can an undesirable function be triggered by pressing the Shift and a F or S key simultaneously?
- Can an undesirable function be triggered by pressing the Ctrl and a F or S key simultaneously?
- Can an undesirable function be triggered by pressing two F or S keys simultaneously?

You can avoid triggering undesirable functions by:

- Modifying the keycode table by editing the keycode tables with *Keycode table → User specific → Edit*
- Modifying the user application

Example:

Two functions are defined in the customer application, whereby the following conditions apply:

Security features are deactivated and the *Default Panel PC* keycode table is loaded.

- The desired function "X" is triggered through simultaneous pressing of the Shift and F1 keys.
- The function "Y" is triggered by pressing the F13 key.

Notice

The same keycode strings exist for Shift + F1 and F13. The customer application cannot distinguish which keys were pressed. The result is an undefined reaction of the customer application:

- The function "Y" can be triggered by pressing the two keys Shift and F1.
- The function "X" can be triggered when pressing the key F13.

Solution

Approach 1:

Use *User specific → Edit* to change the keycode table so that another keycode string is sent when the F13 function key is pressed, for example ALT + F1. The customer program must be able to appropriately interpret this new keycode string.

Approach 2:

The customer application is changed so that the F13 function key is not assigned to the "Y" function. Instead, F12, for example, is assigned to "Y". The F1 and F12 function keys have differing keycodes in the keycode table *Default Panel PC*.

Multiple-Key Operation

We recommend using the direct key module (order number 6AV7671-7DA00-0AA0) with applications that require multiple-key operation (simultaneous pressing of two or more keys). The module enables assignment of 32 freely selectable keys regardless of the PC operating system, thereby enabling very fast and secure multiple-key operation for the automation process.

If the direct key module is not available, two-key operation is possible on a limited basis after deactivating the security features. Always observe all safety guidelines! With suitable keycode tables it is also possible to prevent the triggering of so-called "ghost keys". When using the keycode table *Standard PC compatible*, only the F1-F12 function keys are active. This keycode table permits multiple-key operation.

1.3 WinCC Hotkey Function

The "WinCC hotkey function" is not needed with Windows 98.

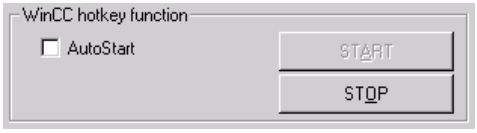

Figure 1–6 *WinCC hotkey function* group

Some software packages (like the HMI software "WinCC") interpret the keycode sequence sent over the keyboard interface in a unique way. The WinCC hotkey function allows you to adapt to this behavior.

Example:

When the WinCC hotkey function is activated by clicking on the *START* button (see Figure 1–6), the keycode for "Release of a function key" will be sent in the exchanged keycode sequence expected by WinCC.

The two following tables list the keycode strings that are sent when the WinCC hotkey function is activated and deactivated, respectively:

	Press key	Release key
F1–F12:	F (1–12)	F (1–12)
F13–S4:	Shift, F(1–12)	Shift, F(1–12)
S5–S16:	Ctrl, F(1–12)	Ctrl, F(1–12)

Table 1–5 Keycode string when WinCC hotkey function is deactivated – *STOP* button pressed

	Press key	Release key
F1–F12:	F (1–12)	F (1–12)
F13–S4:	Shift, F(1–12)	F(1–12), Shift
S5–S16:	Ctrl, F(1–12)	F(1–12), Ctrl

Table 1–6 Keycode string when WinCC hotkey function is activated – *START* button pressed

Click on the *START* button to activate this function; click on the *STOP.* button to deactivate the function.

To start this function automatically when the Panel PC 670/870 boots up, select the check box *AutoStart* (see Figure 1–6).

Appendix 2

The following table provides a listing of all characters that you can enter in the *SIMATIC KeyTools* window, *Keycode table* group and the *User specific* option.

The column "Display/Function" lists the character that will be triggered when the associated keys are pressed (see Figure 1–4).

Name	Code (Hex) 0x	Check box	Display/Function
a A	4	–	a
		L Shift/R Shift	A
		R Alt	á
		R Alt+L Shift/R Shift	Á
b B	5	–	b
		L Shift/R Shift	B
c C	6	–	c
		L Shift/R Shift	C
		R Alt	©
		R Alt+L Shift/R Shift	¢
		L Ctrl/R Ctrl	Copy
d D	7	–	d
		L Shift/R Shift	D
		R Alt	ð
		R Alt+L Shift/R Shift	Ð
e E	8	–	e
		L Shift/R Shift	E
		R Alt	é
		L Shift/R Shift	É
		L Gui/R Gui	Start MS Windows Explorer
f F	9	–	f
		L Shift/R Shift	F
		L Gui/R Gui	Find folder and file

Name	Code (Hex) 0x	Check box	Display/Function
g G	0A	–	g
		L Shift/R Shift	G
h H	0B	–	h
		L Shift/R Shift	H
i I	0C	–	i
		L Shift/R Shift	I
		R Alt	í
		R Alt+L Shift/R Shift	Í
j J	0D	–	j
		L Shift/R Shift	J
k K	0E	–	k
		L Shift/R Shift	K
l L	0F	–	l
		L Shift/R Shift	L
		R Alt	ø
		R Alt+L Shift/R Shift	Ø
m M	10	–	m
		L Shift/R Shift	M
		R Alt	µ
		L Gui/R Gui	Minimize all windows
n N	11	–	n
		L Shift/R Shift	N
		R Alt	ñ
		R Alt+L Shift/R Shift	Ñ
o O	12	–	o
		L Shift/R Shift	O
		R Alt	ó
		R Alt+L Shift/R Shift	Ó
		L Ctrl/R Ctrl	Open
p P	13	–	p
		L Shift/R Shift	P
		R Alt	ö
		R Alt+L Shift/R Shift	Ö
		L Ctrl/R Ctrl	Print

Name	Code (Hex) 0x	Check box	Display/Function
q Q	14	–	q
		L Shift/R Shift	Q
		R Alt	ä
		R Alt+L Shift/R Shift	Ä
r R	15	–	r
		L Shift/R Shift	R
		R Alt	®
		L Gui/R Gui	Display "Execute" dialog box
s S	16	–	s
		L Shift/R Shift	S
		R Alt	ß
		R Alt+L Shift/R Shift	§
		L Ctrl/R Ctrl	Save
t T	17	–	t
		L Shift/R Shift	T
		R Alt	þ
		R Alt+L Shift/R Shift	Þ
u U	18	–	u
		L Shift/R Shift	U
		R Alt	ú
		R Alt+L Shift/R Shift	Ú
v V	19	–	v
		L Shift/R Shift	V
		L Ctrl/R Ctrl	Paste
w W	1A	–	w
		L Shift/R Shift	W
		R Alt	å
		R Alt+L Shift/R Shift	Å
x X	1B	–	x
		L Shift/R Shift	X
		L Ctrl/R Ctrl	Cut
y Y	1C	–	y
		L Shift/R Shift	Y
		R Alt	ü
		R Alt+L Shift/R Shift	Ü

Name	Code (Hex) 0x	Check box	Display/Function
z Z	1D	–	z
		L Shift/R Shift	Z
		R Alt	æ
		R Alt+L Shift/R Shift	Æ
		L Ctrl/R Ctrl	
1 !	1E	–	1
		L Shift/R Shift	!
		R Alt	¡
		R Alt+L Shift/R Shift	¹
2 @	1F	–	2
		L Shift/R Shift	@
		R Alt	²
3 #	20	–	3
		L Shift/R Shift	#
		R Alt	³
		L Shift/R Shift	$
		R Alt	¤
		R Alt+L Shift/R Shift	£
4 $	21	–	4
5%	22	–	5
		L Shift/R Shift	%
		R Alt	€
6 ^	23	–	6
		L Shift/R Shift	^
		R Alt	¼
7 &	24	–	7
		L Shift/R Shift	&
		R Alt	½
8 *	25	–	8
		L Shift/R Shift	*
		R Alt	¾
9 (	26	–	9
		L Shift/R Shift	(
		R Alt	‘

Name	Code (Hex) 0x	Check box	Display/Function
0)	27	–	0
		L Shift/R Shift	)
		R Alt	’
Return	28	–	Return
Escape	29	–	Escape
Backspace	2A	–	Backspace
Tab	2B	–	Tab
Space	2C	–	Space
- _	2D	–	-
		L Shift/R Shift	_
		R Alt	¥
= +	2E	–	=
		L Shift/R Shift	+
		R Alt	×
		R Alt+L Shift/R Shift	÷
[{	2F	–	[
		L Shift/R Shift	{
		R Alt	«
] }	30	–	]
		L Shift/R Shift	}
		R Alt	»
\ |	31	–	\
		L Shift/R Shift	|
		R Alt	¬
		R Alt+L Shift/R Shift	¦
Europe 1	32	–	Europe 1
; :	33	–	;
		L Shift/R Shift	:
		R Alt	¶
		R Alt+L Shift/R Shift	°
' "	34	–	
		L Shift/R Shift	"
		R Alt	´
		R Alt+L Shift/R Shift	¨

Name	Code (Hex) 0x	Check box	Display/Function
` ~	35	–	`
		L Shift/R Shift	~
, <	36	–	,
		L Shift/R Shift	<
		R Alt	ç
		R Alt+L Shift/R Shift	Ç
. >	37	–	.
		L Shift/R Shift	>
/ ?	38	–	/
		L Shift/R Shift	?
		R Alt	¿
Caps Lock	39	–	Caps Lock
F1	3A	–	F1
		L Shift/R Shift	F13
		L Ctrl/R Ctrl	S5
F2	3B	–	F2
		L Shift/R Shift	F14
		L Ctrl/R Ctrl	S6
F3	3C	–	F3
		L Shift/R Shift	F15
		L Ctrl/R Ctrl	S7
F4	3D	–	F4
		L Shift/R Shift	F16
		L Ctrl/R Ctrl	S8
F5	3E	–	F5
		L Shift/R Shift	F17
		L Ctrl/R Ctrl	S9
F6	3F	–	F6
		L Shift/R Shift	F18
		L Ctrl/R Ctrl	S10
F7	40	–	F7
		L Shift/R Shift	F19
		L Ctrl/R Ctrl	S11
F8	41	–	F8
		L Shift/R Shift	F20
		L Ctrl/R Ctrl	S12

Name	Code (Hex) 0x	Check box	Display/Function
F9	42	–	F9
		L Shift/R Shift	S1
		L Ctrl/R Ctrl	S13
F10	43	–	F10
		L Shift/R Shift	S2
		L Ctrl/R Ctrl	S14
F11	44	–	F11
		L Shift/R Shift	S3
		L Ctrl/R Ctrl	S15
F12	45	–	F12
		L Shift/R Shift	S4
		L Ctrl/R Ctrl	S16
Print Screen	46	–	Print Screen
Scroll Lock	47	–	Scroll Lock
Break (Ctrl-Pause)	48	–	Break (Crtl-Pause)
Pause	48	–	Pause
Insert	49	–	Insert
Home	4A	–	Home
Page Up	4B	–	Page Up
Delete	4C	–	Delete
End	4D	–	End
Page Down	4E	–	Page Down
Right Arrow	4F	–	Right Arrow
Left Arrow	50	–	Left Arrow
Down Arrow	51	–	Down Arrow
Up Arrow	52	–	Up Arrow
Num Lock	53	–	Num Lock
Keypad /	54	–	Keypad /
Keypad *	55	–	Keypad *
Keypad -	56	–	Keypad -
Keypad +	57	–	Keypad +
Keypad Enter	58	–	Keypad Enter
Keypad 1 End	59	–	Keypad 1 End
Keypad 2 Down	5A	–	Keypad 2 Down
Keypad 3 PageDn	5B	–	Keypad 3 PageDn
Keypad 4 Left	5C	–	Keypad 4 Left

Name	Code (Hex) 0x	Check box	Display/Function
Keypad 5	5D	–	Keypad 5
Keypad 6 Right	5E	–	Keypad 6 Right
Keypad 7 Home	5F	–	Keypad 7 Home
Keypad 8 Up	60	–	Keypad 8 Up
Keypad 9 PageUp	61	–	Keypad 9 PageUp
Keypad 0 Insert	62	–	Keypad 0 Insert
Keypad . Delete	63	–	Keypad . Delete
Europe 2	64	–	Europe 2
App	65	–	App
Keyboard Power	66	–	Keyboard Power
Keypad =	67	–	Keypad =
F13	68	–	F13
F14	69	–	F14
F15	6A	–	F15
F16	6B	–	F16
F17	6C	–	F17
F18	6D	–	F18
F19	6E	–	F19
F20	6F	–	F20
F21	70	–	F21
F22	71	–	F22
F23	72	–	F23
F24	73	–	F24
Left Control	E0	–	Left Control
Left Shift	E1	–	Left Shift
Left Alt	E2	–	Left Alt
Left GUI	E3	–	Left GUI
Right Control	E4	–	Right Control
Right Shift	E5	–	Right Shift
Right Alt	E6	–	Right Alt
Right GUI	E7	–	Right GUI